

WHAT IS CLAIMED IS:

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1. A method of producing C₆₀ and C₇₀ compounds which comprises evaporating graphite in an atmosphere of an inert quenching gas at effective pressures in an evacuated reactor, collecting the quenched carbon product produced therefrom and contacting the quenched carbon product with an extracting non-polar organic solvent under effective conditions to separate the C₆₀ and C₇₀ compounds therefrom.

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2. The method according to Claim 1 wherein the quenched carbon is collected on a collecting substrate.

3. The method according to Claim 1 wherein the C₆₀ and C₇₀ compounds are recovered from the organic solvent.

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4. The method according to Claim 3 wherein the separating step comprises evaporating the solvent.

5. The method according to Claim 1 wherein the solvent is benzene.

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6. The method according to Claim 1 wherein the solvent is carbon tetrachloride.

7. The method according to Claim 1 wherein the evaporation of graphite is effected by passing high electrical current through graphite rods.

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8. The method according to Claim 1 wherein the inert gas is helium or argon.

9. The method according to Claim 1 wherein the graphite is evaporated at pressures ranging from about 50 torr to about 400 torr.

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10. The method according to Claim 9 wherein the pressure is about 100 torr.

11. The method according to Claim 1 wherein the pressure ranges from about 2 to about 3-atmospheres.

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1 12. The method according to Claim 1 further comprising separating the C₆₀ compound from the C₇₀ compound.

5 13. The method according to Claim 11 further comprising separating the C₆₀ compound from the C₇₀ compound.

10 14. Amorphous or crystalline particulate matter comprised of C₆₀.

15 15. Amorphous or crystalline particulate matter comprised of C₆₀ produced by the process according to Claim 9.

20 16. A carbon product comprising a mixture of C₆₀ and C₇₀.

25 17. A carbon product, the mass spectrum of which shows a strong peak at mass 720 amu, the infrared bonds of which have four intense lines at 1424, 1183, 577, and 528 cm⁻¹, absorption peaks in the UV at 264 and 339 nm, soluble in non-polar organic solvents and sublimes at a temperature of from about 300° to 400°C.

30 18. The carbon product of Claim 17 produced by the process of Claim 1.

35 19. A carbon product produced by the process of Claim 10.

40 20. A carbon product produced by the process of Claim 11.

45 21. A carbon product produced by the process of Claim 12.

50 22. A carbon product produced by the process of Claim 13.

55 23. A formed or molded product comprising C₆₀.

60 24. The product according to Claim 23 which is extended in at least one direction.

65 25. A free flowing particulate comprised of C₆₀.

1 26. Substantially pure C₆₀.

27. A brownish-red carbon allotrope.

28. Amorphous or crystalline particulate matter comprised of C₇₀.

5 29. A carbon product, the mass spectrum of which shows a molecular ion at 840 amu, a broad peak in the ultraviolet at 216 nm, and soluble in non-polar organic solvents.

10 30. A formed or molded product comprising C₇₀.

31. A free-flowing particulate comprised of

C₇₀.

32. Substantially pure C₇₀.

33. C₆₀.

34. C₇₀.

35. The vapor of C₆₀.

15 36. The vapor of C₇₀.

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1 37. A method of extracting C₆₀ and C₇₀ from a
carbon source containing same which comprises contacting
the carbon source with a non-polar organic solvent.

5 38. A method according to Claim 37 wherein the
C₆₀ and C₇₀ are recovered from the organic solvent.

10 39. A method according to Claim 37 wherein the
solvent is benzene, carbon tetrachloride or carbon
disulfide.

15 40. A method of extracting C₆₀ and C₇₀ from a
carbon source containing same which comprises contacting
the carbon source with benzene and recovering C₆₀ and C₇₀
from the benzene solution thus formed.

20 41. A method according to Claim 37 wherein the
carbon source containing C₆₀ and C₇₀ is produced by
evaporating graphite in an atmosphere of an inert
quenching gas in a reactor therefor.

25 42. A method according to Claim 41 wherein the
evaporation of graphite is effected by passing high
electrical current through graphite rods.

30 43. A method according to Claim 41 wherein the
inert gas is helium or argon.

35 44. A method according to Claim 41 wherein the
carbon source containing C₆₀ and C₇₀ is obtained from
collecting substrates in said reactor.